

In the Claims

1-56 (canceled).

57 (currently amended). An isolated MCP protein comprising:

- a) amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins; or
- b) amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

58 (currently amended). The isolated MCP protein according to claim 57, wherein said MCP protein comprises amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

59 (previously presented). The isolated MCP protein according to claim 58, wherein said one or more amino acid positions are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine.

60 (previously presented). The isolated MCP protein according to claim 57, wherein said MCP protein comprises amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine.

61 (previously presented). The isolated MCP protein according to claim 57, in which one amino acid residue has been added, deleted, or substituted without interfering with the antagonistic activity of said MCP protein with respect to unaltered MCP proteins.

62 (previously presented). The isolated MCP protein according to claim 57, further comprising a heterologous amino acid sequence.

63 (canceled).

64 (previously presented). The isolated MCP protein according to claim 57, wherein said MCP protein is human MCP-1, human MCP-2, human MCP-3, human MCP-4, or human Eotaxin.

65 (previously presented). The isolated MCP protein according to claim 57, comprising the sequence of SEQ ID NO: 3.

66 (previously presented). The isolated MCP protein according to claim 57, further comprising a molecule chosen from radioactive labels, biotin, fluorescent labels, cytotoxic agents, or drug delivery proteins.

67 (previously presented). The isolated MCP protein according to claim 62, wherein the heterologous amino acid sequence is selected from: extracellular domains of membrane-bound protein, immunoglobulin constant regions, multimerization domains, extracellular proteins, signal peptide-containing proteins or export signal-containing proteins.

68 (currently amended). An isolated nucleic acid encoding a MCP protein comprising:

- a) amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins; or
- b) amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

69 (currently amended). An expression vector comprising a nucleic acid encoding a MCP protein comprising:

- a) amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins; or
- b) amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

70 (currently amended). An isolated host cell transformed with an expression vector comprising a nucleic acid encoding a MCP protein comprising:

a) amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins; or

b) amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

71 (currently amended). A process of preparing a MCP antagonist comprising culturing a host cell transformed with an expression vector comprising a nucleic acid encoding a MCP protein comprising:

a) amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins; or

b) amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

72 (currently amended). A composition comprising a carrier and a MCP protein comprising:

a) amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins; or

b) amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

73 (currently amended). The composition according to claim 72, wherein said MCP protein comprises amino acid substitutions at positions 18 and 19 and amino acid substitutions at one or more amino acid positions numbered 24, 44, 49, 58, 66 and 75, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine and wherein said MCP protein antagonizes the activity of unaltered MCP proteins.

74 (previously presented). The composition according to claim 73, wherein said MCP protein comprises amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine.

75 (previously presented). The composition according to claim 73, wherein said MCP protein comprises amino acid substitutions at positions 18 and 19, as numbered on the sequence of human mature MCP-1, said human mature MCP-1 corresponding to amino acids 24-99 of SEQ ID

NO: 1, wherein amino acids at positions 18 and 19 are substituted with alanine, glycine, serine, threonine, proline, aspartic acid, asparagine, glutamic acid or glutamine.

76 (previously presented). The composition according to claim 72, wherein said MCP protein further comprises one amino acid residue that has been added, deleted, or substituted without interfering with the antagonistic activity of said MCP protein.

77 (previously presented). The composition according to claim 72, wherein said MCP protein further comprises a heterologous amino acid sequence.

78 (canceled).

79 (previously presented). The composition according to claim 72, wherein said MCP protein is human MCP-1, human MCP-2, human MCP-3, human MCP-4, or human Eotaxin.

80 (previously presented). The composition according to claim 72, wherein said MCP protein comprises SEQ ID NO: 3.

81 (previously presented). The composition according to claim 72, wherein said MCP protein further comprises a molecule chosen from radioactive labels, biotin, fluorescent labels, cytotoxic agents, or drug delivery proteins.

82 (previously presented). The composition according to claim 77, wherein the heterologous amino acid sequence is selected from: extracellular domains of membrane-bound protein, immunoglobulin constant regions, multimerization domains, extracellular proteins, signal peptide-containing proteins or export signal-containing proteins.

83 (previously presented). The composition according to claim 72, wherein said MCP protein has amino acids at positions 18 and 19 substituted with alanine.

84-86 (canceled).

87 (previously presented). The isolated MCP protein according to claim 57, wherein said activity is the recruitment of intraperitoneal cells.

88 (previously presented). The isolated MCP protein according to claim 58, wherein said activity is the recruitment of intraperitoneal cells.

89 (previously presented). The isolated MCP protein according to claim 60, wherein said activity is the recruitment of intraperitoneal cells.